

PATENT CLAIMS

1-7. cancelled

8. (new) A drive train for the transmission of a variable power at a variable input speed for a power generating station having a turbomachine, the drive train comprising:
a power-split transmission for distributing power to at least one first power branch and at least one second power branch, the first power branch driving an electric generator via a hydrodynamic circuit disposed at an output end of the power-split transmission, wherein the hydrodynamic circuit controls power flow so that a speed at which the electric generator is driven is substantially constant.

9. (new) The drive train of claim 8, wherein the hydrodynamic circuit comprises a hydrodynamic Föttinger converter, a hydrodynamic coupling or a Trilok converter.

10. (new) The drive train of claim 9, further comprising a pump impeller connected to a rapidly spinning shaft of the power-split transmission, wherein the rapidly spinning shaft is an output shaft of the drive train to which the electric generator is connected.

11. (new) A drive train for the transmission of a variable power at a variable input speed for a power generating station driven with a turbomachine, the drive train comprising:

a power-split transmission having an input shaft, at least one first power branch, and at least one second power branch, wherein the first power branch drives an electric generator, wherein the second power branch is connected to the input shaft and feeds back reactive power to the power-split transmission via a hydrodynamic circuit arranged in the second power branch, and wherein reactive power flow in the second power branch is controlled so that a speed at which the electric generator is driven is substantially constant.

12. (new) The drive train of claim 11, further comprising a second transmission connected in series with the power-split transmission.

13. (new) The drive train of claim 12, wherein the second transmission is arranged in the second power branch and increases a speed at which the hydrodynamic circuit is operated.

14. (new) The drive train of claim 13, wherein an output speed is held constant with a maximum deviation of ± 10 percent of the specified value.

15. (new) The drive train of claim 13, wherein an output speed is held constant with a maximum deviation of ± 5 percent of the specified value.

16. (new) The drive train of claim 13, wherein an output speed is held constant with a maximum deviation of ± 1 percent of the specified value.

17. (new) The drive train of claim 13, wherein the hydrodynamic circuit further comprises a pump and a stator having adjustable vanes, wherein power input of the pump can be adjusted.

18. (new) The drive train of claim 13, wherein the hydrodynamic circuit further comprises a turbine wheel and a stator having adjustable vanes, wherein power flow to the turbine wheel can be adjusted.

19. (new) The drive train of claim 13, wherein power input occurs via a planetary gear carrier, wherein the first power branch is operably connected to a sun wheel, and wherein the second power branch provides feedback to a ring gear.

20. (new) The drive train of claim 13, wherein power input occurs via a ring gear, wherein the first power branch is operably connected to a sun wheel, and wherein the second power branch is coupled to a planetary gear carrier.